

REMARKS

The Office Action mailed September 12, 2002 has been reviewed and the comments of the Patent and Trademark Office have been considered. Claims 1-6 were pending in the application. Claim 1 has been amended and claims 2 and 3 have been canceled. Claims 7-8 have been added. Therefore, claims 1 and 4-8 are pending in the application and are submitted for reconsideration by the examiner.

Objection to the Specification

The specification was objected to in the Office Action. The abstract has been amended to overcome the objection indicated in the Office Action. Reconsideration of the abstract is respectfully requested.

35 U.S.C. § 102(b) Rejections

In the Office Action, claims 1-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. patent 5,472,781 to Kim et al. (hereafter "Kim"). Further, claims 1-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. patent 4,491,657 to Saito et al. (hereafter "Saito"). In response, Applicants have incorporated the limitations of claim 3 into claim 1, as seen above. Applicants respectfully traverse the rejection of amended claim 1 for the following reasons.

Kim only discloses a single example of a polyester fiber exhibiting a strength x (breaking elongation)^{0.5} of below 24.0 cN/dtex.%^{0.5}. This is found on Table 1 at Example 4 of Kim, where the strength x (breaking elongation)^{0.5} is 23.4 cN/dtex.%^{0.5}. (See columns 17-18.) This was calculated by using the teaching of a tenacity of 7.3 g/d and an elongation of 13.2%, which translates to a strength x (breaking elongation)^{0.5} of 23.4 cN/dtex.%^{0.5} (where 1 g/d = 0.8826cN/dtex). However, Applicants have studied this particular polyester fiber (the fiber of Example 4) and found that the birefringence is 0.069, corresponding to the main dispersion peak temperature loss tangent (tan δ) in the measurement of dynamic viscoelasticity at 110 Hz which is *greater* than 147.0°C. In contrast, Applicants note that in contrast to this,

claim 1, as amended, contains the limitation of a main dispersion peak temperature loss tangent ($\tan \delta$) in the measurement of dynamic viscoelasticity at $110 \text{ Hz} \leq 147.0^\circ\text{C}$. Thus, this limitation is not met by the fiber of Example 4, and claim 1, as amended, is allowable. (For a discussion on birefringence, see page 6 of the specification.)

Additionally, Applicants note that the Office Action does not point out where Kim teaches a main dispersion peak temperature loss tangent ($\tan \delta$) in the measurement of dynamic viscoelasticity at $110 \text{ Hz} \leq 147.0^\circ\text{C}$. Instead, the Office Action simply states that this property is inherent. Applicants respectfully rely on MPEP § 2112, which states that while “a rejection under 35 U.S.C. § 102/103 can be made when the prior art product seems to be identical except that the prior art is silent to an inherent characteristic,” the “[E]xaminer *must* provide rationale or evidence tending to show inherency.” (MPEP § 2112, subsections 3 and 4, emphasis added) It is respectfully submitted that no evidence tending to show inherency has been provided in the present Office Action. Further, in considering the statements in the Office Action to support the inherency argument, it is respectfully submitted that § 2112 inherency is not being properly implemented. In arriving at this conclusion, Applicants the following excerpt from MPEP § 2112:

The fact that a certain result of characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijkaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted) (The claims were drawn to a disposable diaper having three fastening elements. The reference disclosed two fastening elements that

could perform the same function as the three fastening elements in the claims. The court construed the claims to require three separate elements and held that the reference did not disclose a separate third fastening element, either expressly or inherently.)

(emphasis added) Inherency means that *the missing descriptive matter is necessarily present* in the reference. The courts have allowed the PTO to rely on inherency arguments to free the PTO from the necessity of finding references which explicitly state that inherent elements are present. This is because certain characteristics are inherent, the references will most probably not mention these elements, and, as such, will be difficult to find. For example, it is not necessary to find a reference that explicitly states that plutonium 239 is radioactive, as plutonium 239 is always radioactive. That is, radioactivity is an inherent feature of plutonium 239. However, inherency is not a panacea that enables an examiner to use references which are *deficient* in teaching certain elements of a claim. Recognizing the power of the inherency argument, the courts have tempered its use, as is seen in § 2112, where the PTO has stipulated that the examiner corps must follow certain procedures before invoking inherency: the “examiner must provide rationale or evidence tending to show inherency.” In the present case, no such rationale or evidence has been provided in the Office Action. The examiner must show that the claimed properties are always present in the fibers of the cited reference. The subject matter claimed in claim 1 is not *necessarily present* in the references. Just as was the case of the third fastener in the example provided in the MPEP quoted above, the subject matter of Applicants’ claims is not expressly or inherently disclosed in Kim. Thus, a reference that explicitly teaches these limitations must be found, else the claims must be allowed.

* * * * *

In regard to Saito, Saito only discloses polyester fibers having a monofilament linear density that equals 5.77 dtex, showing that the polyester fibers of Saito fail to meet the condition (c) in claim 1 of the present application. Saito discloses that “[e]ach drawn yarn was 1000 denier and had 192 filaments” (column 13, lines 26-27). The value of monofilament linear density is $1000/192 = 5.2 \text{ d}$, which can be converted into 5.77 dtex (note:

1 d = 10/9 dtex = 1.11 dtex). Applicants note that in contrast to this, claim 1 contains the limitation of a monofilament linear density of ≤ 5.0 dtex. Applicants note that the Office Action states that this limitation is inherent in the Saito reference. In response, Applicants rely on the above statements in regard to inherency arguments in traversing the rejection based on the Saito reference. Because all of the limitations of claim 1 are not met by the fiber of Saito, claim 1, as amended, is allowable.

* * * * *

Claim 4, which contains the limitation of a strength x (breaking elongation)^{0.5} is 23.0 cN/dtex.%^{0.5} or lower, is not anticipated by Kim because, as noted above, the lowest strength x (breaking elongation)^{0.5} value of Kim is 23.4. (See Table 1 at Example 4 of Kim.) Claim 4 is further allowable over Saito for at least the reason stated above in regard to claim 1.

* * * * *

Claims 5 and 6 are allowable for at least the reason that the claims depend from claim 1, which, as seen above, is allowable. Claims 7 and 8 are likewise allowable because they are method claims that utilize a fiber having all the limitations of claim 1.

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In light of the above, it follows that the claimed polyester fiber and polyester dip cord of the present invention would not be anticipated by Kim or Saito.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

If Applicants have not accounted for any fees required by this Amendment, the Commissioner is hereby authorized to charge to our Deposit Account No. 19-0741. If Applicants have not accounted for a required extension of time under 37 C.F.R. § 1.136, that extension is requested and the corresponding fee should be charged to our Deposit Account.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution.

Respectfully submitted,

Date January 13, 2002

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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge deposit account No. 19-0741 for any such fees; and applicants hereby petition for any needed extension of time.

Please replace the abstract with the following:

A polyester fiber containing polyethylene terephthalate at 90 mol% or higher of a whole repeating unit in a molecular chain thereof, the fiber having an intrinsic viscosity $[[IV]]$ (IV) of 0.85 dl/g or higher and simultaneously meeting the following characteristics: (a) strength ≥ 6.0 cN/dtex; (b) strength x (breaking elongation)^{0.5} ≤ 26.0 cN/dtex.%^{0.5}; (c) monofilament linear density ≤ 5.0 dtex; and (d) main dispersion peak temperature of loss tangent ($\tan \delta$) in the measurement of dynamic viscoelasticity at 110 Hz $\leq 147.0^\circ\text{C}$, and a polyester dipped cord, which is obtainable by twisting one or more than one base yarn together into a pretwisted yarn, where the base yarn is made of a polyester fiber [according to any one of claims 1 to 4;] twisting two or more pretwisted yarns together into a greige cord; and subjecting the greige cord to dip treatment to give a dipped cord simultaneously meeting the following characteristics: (a) tenacity conversion efficiency in the dip treatment (dipped cord tenacity / greige cord tenacity) $\geq 96\%$; and (b) elongation at a specific load + dry heat shrinkage $\leq 7.5\%$.

Marked up version showing changes made to the claims.

1. (Amended) A polyester fiber comprising polyethylene terephthalate at 90 mol% or higher of a whole repeating unit in a molecular chain thereof, the fiber having an intrinsic viscosity ~~[[IV]]~~ (IV) of 0.85 dl/g or higher and simultaneously meeting the following characteristics:

- (a) strength ≥ 6.0 cN/dtex;
- (b) strength x (breaking elongation)^{0.5} $[\leq 26.0 \text{ cN/dtex} \cdot \%^{0.5}] \leq \underline{24.0 \text{ cN/dtex} \cdot \%^{0.5}}$;
- (c) monofilament linear density ≤ 5.0 dtex; and
- (d) main dispersion peak temperature of loss tangent ($\tan \delta$) in the measurement of dynamic viscoelasticity at 110 Hz $\leq 147.0^\circ\text{C}$.